Jocelyn Shih

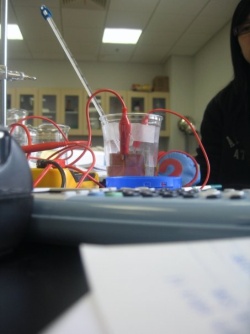
Lab Science 9

Block H

Battery Challenge Evaluation

The data was extremely different from what we had expected. We had expected that if there is more salt, then the current and voltage will increase. In the end, we concluded that the amount of salt did not have any drastic effect on the voltage and current, and there was no stable change.

Due to unforeseen circumstances (some of the copper and iron had dissolved in our previous solution after two days, and changed the entire solution), we had to change our experiment. We changed our original experiment (adding different amounts of salt), to diluting the solution (thus changing the concentration). This change of plans and unexpected solution change made this experiment weak. The strength of this experiment was that we did a good job of keeping the other variables (such as distance between metals, the size of metals, amount of water, temperature of water etc) constant. We did this by making sure the metals were in the same place (by sticking on tape), having the temperature of the tap water the same (by using a thermometer) so we keep the solubility of the water and everything that might affect the investigation constant.



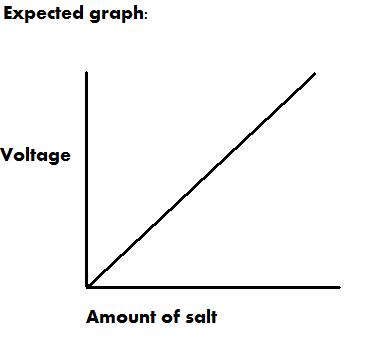
图表 1 Keeping variables constant: temperature.

No experiment is perfect. Possible modifications for this investigation would be diluting more of the solution so we have a more certain answer to our main question: Does the amount of salt change the current or voltage of a "salt water battery"? Basically, I think we should have had more tries of the experiment (10 g of salt, 11 g of salt, 12 g of salt, 13 g of salt and so on). This would be less efficient but we would be more certain on our outcomes. Also, we could start with more salt so we can see if there are any drastic changes. If so, how? To improve our investigation, we could also try to repeat the whole experiment to be certain.

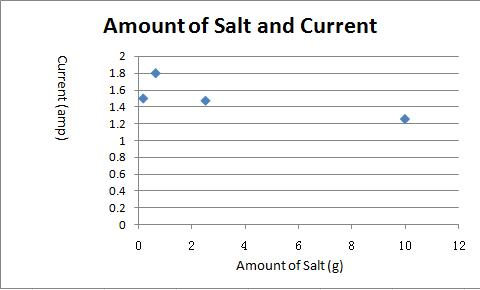
From our results, we can conclude that the amount of salt we put in tap water will not drastically affect the currents and voltage generated from a "salt water battery". We can conclude that the salt randomly changed the current and voltage. I would recommend to the group that we should have more attempts at this experiment so we can have be absolutely certain that our answer is correct.



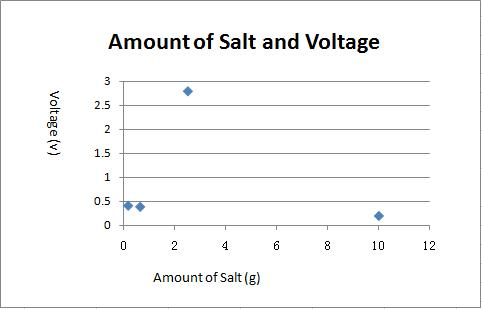
图表 2 Unexpected: After leaving the iron and copper in our salt solution.



图表 3 Our expected graph.



图表 4 Our actual graph.



图表 5 Our actual graph.